

Philip Galanter

Artwork: TSP Analytics: solver



Topic: Fine Art

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References:

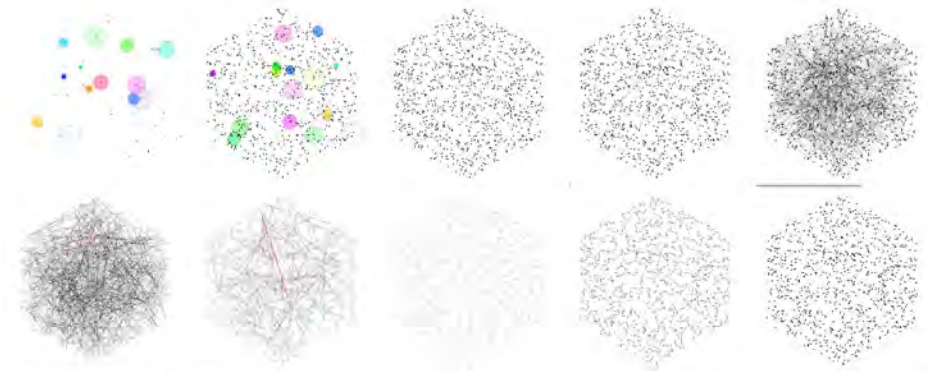
[1] Galanter, Philip. 2004. What is Emergence? Generative murals as experiments in the philosophy of complexity. In International Conference on Generative Art. Milan, Italy: Generative Design Lab, Milan Polytechnic.

[2]
<http://philipgalanter.com>

Abstract:

TSP Analytics refers to a series of computer animations that explore and demonstrate emergent form generated by solving the classic Travelling Salesman Problem in optimization theory. This piece, “solver,” provides a visual explanation of the problem, the process, and the relentlessly consistent form exhibited in the solution path including figure/ground reversal, some correlation of angle to attached lengths, and particularly the lack of crossed lines.

Random points within different geometric outlines (circles, squares, triangles, and hexagons) are connected, with each point being visited once and only once. Initially the connections are random. Finding the solution is depicted by uncrossing pairs of lines until no further crossed lines remain. This is actually not a good way to solve the TSP, but it is a good way to explain the nature of the challenge.



Frames from one full cycle. The piece cycles continually with different outline shapes.

Please Note Regarding Installation: I will bring everything needed. The setup is quite small. All that is required is about a meter of white wall space and reduced lighting. The image will be projected on the wall using a palm-sized projector on a tripod. A similarly very small computer will drive the projector and run the software.

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Keywords:

Animation, generative graphics, emergence, optimization